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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,860	01/23/2001	Eric Cheng	ADAPP173	3162

25920 7590 11/06/2003

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EXAMINER

DUNCAN, MARC M

ART UNIT	PAPER NUMBER
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2184

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

09/768,860

Applicant(s)

CHENG ET AL.

Examiner

Marc M Duncan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 January 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-30 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-8, 13-17, 20, 21, 31 and 32 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 9-12, 18, 19, 33 and 34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 2, 6, 7, 15, 16, 20, 21 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marks et al. in view of Tanenbaum.

Regarding claims 1, 15 and 31:

Marks teaches a user interface module capable of receiving configuration parameters for a multi-path failover system from a user in col. 4 lines 33-34 and col. 6 lines 65-67.

Marks also teaches an object module capable of receiving the configuration parameters from the user interface module, wherein the object module is capable of detecting a current controller status of a controller and a current device status of a device in col. 4 lines 33-34, col. 6 line 10, col. 6 lines 65-67 and col. 9 lines 19-20.

Marks does not explicitly teach a segregated user interface. Marks does not explicitly teach a driver being configured by the object module. Marks does, however, teach an interface that allows the user to configure the controllers and set the controllers in a failover mode.

Tanenbaum teaches a segregated user interface on page 779 figure 11-7 and page 288 figure 5-10, page 289 and page 290 figure 5-11. Tanenbaum teaches a driver being configured on page 288 figure 5-10. It should be noted that Tanenbaum is a reference book that teaches of systems that are well known and have been in common use in the past.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the Marks teachings of a failover system that is user configured with the Tanenbaum teachings of a segregated user interface in which a driver is configured to result in a failover system with a segregated user interface.

One of ordinary skill in the art at the time of invention would have been motivated to combine the teachings because while Marks does not explicitly teach the segregated

interface and the driver configuration, Marks does teach a failover system in which the user is able to change the configuration of controllers through a user interface.

Tanenbaum teaches that it was common knowledge that drivers are necessary to communicate with and access a system's hardware, i.e. the controllers of Marks. It is also taught by Tanenbaum that the drivers in such a system were contained in the kernel space, as opposed to the user space, thereby resulting in a segregated interface. It would therefore have been common knowledge to one of ordinary skill in the art at the time of invention to include the segregated interface and driver teachings of Tanenbaum with the failover system of Marks.

Regarding claims 2 and 16:

Marks teaches the user interface module being capable of displaying the current controller status and the current device status in col. 4 lines 33-34. The examiner considers some display of the status to be inherent to user directed status reporting.

Regarding claims 6 and 20:

Marks teaches disabling and enabling failover features for a particular data path in col. 9 lines 19-20.

Regarding claims 7 and 21:

Marks teaches the failover feature being an ability to reroute an I/O request destined for a particular I/O device when a primary data path to the I/O device has failed in the Abstract lines 5-7.

Claims 3, 8, 13, 14, 17 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marks and Tanenbaum as applied to claims 1 above, and further in view of Hall.

Regarding claims 3, 17 and 32:

The teachings of Marks are outlined above.

Marks does not explicitly teach LUN masking parameters. Marks does, however, teach allocating the LUNs to specific controllers in col. 7 lines 16-18.

Hall explicitly teaches LUN masking parameters in paragraphs 0007-0011.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the LUN masking system of Hall with the LUN allocation teaching of Marks.

One of ordinary skill in the art at the time of invention would have been motivated to combine the teachings because Marks teaches that each controller is allocated its own specific LUNs. Hall teaches a method of allocating LUNs to each controller such that each controller accesses only a certain number of LUNs allocated to it. Hall also teaches that by using the particular method of Hall, LUN masking can be achieved relatively inexpensively with only minimal operating system modification in paragraph 0012.

Regarding claim 8:

The claim is rejected as the method of operating the apparatus of claims 1-3.

Regarding claim 13:

The claim is rejected as the method of using the apparatus of claims 1-3 and 6.

Regarding claim 14:

The claim is rejected as the method of using the apparatus of claims 1-3 and 7.

***Allowable Subject Matter***

Claims 4, 5, 9, 10, 11, 12, 18, 19, 33 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Prior art was not found that explicitly teaches or fairly suggests LUN masking without input/output request blocking as outlined in claims 4, 9, 18, 22, 25, 28 and 33. This limitation is considered allowable only when taken in combination with all other elements of the base claims and any intervening claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art not relied upon contains elements of the instant claims and/or represents a current state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc M Duncan whose telephone number is 703-305-4622. The examiner can normally be reached on M-T and TH-F 6:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on 703-305-9713. The fax phone

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number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

md



ROBERT BEAUSOLIEL  
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